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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
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10/783,933

02/20/2004

Daniel Watson

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EXAMINER

HENDRICKSON, STUART L

ART UNIT

PAPER NUMBER

1793

MAIL DATE

DELIVERY MODE

03/17/2008

PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary	Application No. 10/783,933	Applicant(s) WATSON, DANIEL	
	Examiner Stuart Hendrickson	Art Unit 1793	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 1/21/08.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1,3-14 and 20-22 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1,3-14 and 20-22 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08)
Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____ |

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The text of those sections of Title 35, U.S. Code not included in this action can be found in a prior Office action. The RCE is accepted.

Claims 1, 3-14, 20-22 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

A) In claim 1, 'a copper', 'an iron' etc. is unclear; 'copper', 'iron' etc. appears meant.

B) In claim 1i, 'material temperature' is unclear, especially as to how it differs from 'temperature'.

C) Claim 1vi is unclear in that the temperature is controlled by how much heat is injected and the rate of temperature increase is determined by how fast it is injected (also taking into account the dissipation rate)- not vice-versa.

Claims 1, 3-14, 21-22 are rejected under 35 U.S.C. 103(a) as being unpatentable over Lundin et al. 5103701 taken with Li et al. 6609963.

Lundin treats diamond at a low temperature; compare to present specification. Lundin does not teach polycrystalline, however Li does in columns 5 and 6. Using a polycrystalline diamond as the cutting tool of Lundin is thus an obvious expedient. No difference is seen in the effect of the treatment, or properties of the final product.

Where the examiner has found a substantially similar product as in the applied prior art the burden of proof is shifted to the applicant to establish that their product is patentably distinct not the examiner to show that the same process of making, see In re Brown, 173 U.S.P.Q 685, and In re Fessmann, 180 U.S.P.Q. 324. The process does not limit the product.

In so far as another material is required, it is noted that the reference teaches that other materials bond to carbon. Thus, composites are formed (even if the goal is to suppress formation thereof). The examiner takes Official Notice that using a material such as copper as a composite with diamond is an obvious expedient to provide a heat dissipation means, given the known conductivity of copper, and further that diamond composites (with carbides for example) are old and known for cutting tools.

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Claim 20 is rejected under 35 U.S.C. 103(a) as being unpatentable over Lundin/Li as applied to claims 1, 3-14, 21 and 22 above, and further in view of Scott 6655234.

The above does not teach the diamond as coating, but col. 1 teaches this. Thus, it is an obvious expedient to maximize the amount of diamond used as a cutting surface.

Claims 1, 3-14, 21 and 22 are rejected under 35 U.S.C. 103(a) as being unpatentable over Fang 6319460.

Fang teaches in the abstract diamond with a metal matrix. While not teaching an example of 'polycrystalline' explicitly, using a polycrystalline diamond is suggested in col. 1. Thus, it is obvious as a matter of optimization; In re Boesch 205 USPQ 215. Even though no cooling steps are taught, no difference is seen between the composite claimed versus that of Fang, when both are sitting side by side at (for example) room temperature. Note col. 6 line 25.

Claims 1, 3-14, 21 and 22 are rejected under 35 U.S.C. 102(b) as anticipated by or, in the alternative, under 35 U.S.C. 103(a) as obvious over Vilella-Jirau 6030596.

Vilella-Jirau teaches an agglomeration of copper and diamond. See col. 1 line 45 onward. While not teaching the process steps, no differences are seen for the reasons expressed above.

Applicant's arguments filed 1/21/08 have been fully considered but they are not persuasive. If applicant is of the belief that 'material temperature' is germane to the patentability of the claims, then they invited to explain what temperature is being claimed. Will an opponents diamond infringe at -78 degrees but not infringe the claims at room temperature? How about 80 degrees (when it is being used)? In what way does this phrase limit the claims? Since the references do not report the previous history of their diamonds, then it is possible that they were in fact treated cryogenically. The arguments to process steps are not germane to the product

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claimed, unless a difference can be shown. Perhaps a modulus or hardness value difference can be demonstrated and claimed. Fig. 3 and specification paragraph 28 are insufficient for this.

The process steps, temperatures and apparati are irrelevant to the products claimed.

Any inquiry concerning this communication should be directed to examiner Hendrickson at telephone number (571) 272-1351.

/Stuart Hendrickson/

Stuart Hendrickson
examiner Art Unit 1793